

## EXECUTIVE SUMMARY

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This summary presents an overview of the Final Environmental Impact Statement (Final EIS) prepared by the Bureau of Land Management (BLM), Vernal Field Office in response to a proposal by The Resource Development Group (RDG) to develop hydrocarbon resources on federal lands in the Atchees Wash Oil and Gas Production region in the Book Cliffs Resource Management Area in Uintah County, Utah. The RDG has proposed to develop an area encompassing approximately 79,914 acres of land within the Book Cliffs Resource Management Area 40 miles southeast of Vernal, Utah.

The original RDG consortium was formed in 1997 and was comprised of Rosewood Resources, Inc., White River Resources Management Inc., Security Energy Company, Kidd Family Partnership, and St. Anselm Exploration Company. However, since the beginning of the project, many of the operators involved in the project have changed due to lease rights acquisition or other circumstances. The current RDG proponents include the following: Rosewood Resources, Inc., Dominion Exploration and Production, Inc., McElvain Oil & Gas Properties, Inc., and Enduring Resources.

In response to the proposed project, an Environmental Assessment was published in February 1999. A Decision Record/Finding of No Significant Impact was signed by the BLM on January 29, 1999. Subsequent to its decision, the BLM received 12 requests for a State Director Review and one request for a stay of the Decision Record/Finding of No Significant Impact. A stay was issued until April 16, 1999 and subsequently extended, pending a thorough review of the requests received. Those requesting the review and stay questioned the nature and extent of impacts disclosed in the Environmental Assessment and the validity of its findings. On May 21, 1999, the Decision Record/Finding of No Significant Impact was vacated and the proposal was remanded to the BLM, Vernal Field Office for the preparation of an EIS.

The proposed project would involve BLM-administered public lands, State of Utah School and Institutional Trust Lands Administration (Utah SITLA) administered lands, and private lands. The lands RDG operators propose to develop (the Project Area) are either wholly or partially contained within townships T11S, R22E; T11S, R23E; T11S, R24E; T12S, R23E; and T12S, R24E. The BLM, as lead federal agency, has determined that the proposed project constitutes a major federal action requiring the development of a programmatic EIS. This document is the final EIS.

The mineral leases within the Project Area have been obtained by RDG operators from the U.S. government and the State of Utah and grant certain rights to explore, develop, and produce the oil and gas resources underlying such leases, grant ingress and egress to such leases, and retain a Royalty Interest on any production accruing to the benefit of the federal government or the State of Utah. RDG operators hold valid federal, state, and private oil and gas leases in the Project Area; these leases grant contractual rights from the U.S., the State of Utah, and the private mineral landowners to the RDG operators for the purpose of developing oil and natural gas resources.

## **S.1 PURPOSE AND NEED**

The purpose of RDG's Proposed Action is to extract and transport natural gas, at a profit, from the portions of the Project Area leased by its companies.

Natural gas is widely considered essential to supplying the nation's current and future energy needs, especially clean-burning energy. Domestic demand is increasing and is expected to reach 24.8 trillion cubic feet (tcf) per year by 2010 (Gas Research Institute 1993). Increased development of natural gas in an environmentally responsible manner is also necessary to satisfy federal energy policy (DOE 1998). Private exploration and development of federal, domestic oil and gas reserves are integral parts of BLM's oil and gas leasing mandates, under the authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act (FLPMA) of 1976, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987.

This EIS addresses the effects of implementing a *level of development* (rather than particular actions of development with particular, definitive results) and *conceptual locations* (rather than definitive locations) for natural gas facilities within the Project Area. For the purposes of this EIS, the wells, roads, pipelines, and ancillary facilities detailed in this EIS must remain hypothetical and conceptual in plan and location. The final location for each component of this project would be determined through consideration of topographical and geological features and site-specific analyses. These analyses would occur when RDG operators file site-specific applications, such as an Application for Permit to Drill or a BLM SF299 (right-of-way) application.

This EIS provides the basis for analyzing and disclosing impacts anticipated to result from the level of development proposed within the Project Area and identifies approval conditions, Best Management Practices, Standard Operation Practices, and mitigation measures to be implemented as necessary at as-yet undetermined development locations within the Project Area.

## **S.2 LAND STATUS, LEGAL, AND POLICY CONSIDERATIONS**

### ***S.2.1 LAND STATUS***

The Project Area encompasses approximately 79,914 acres. Land ownership within this area is divided among the BLM, the Utah SITLA, and various private entities. BLM-administered lands account for approximately 70,324 acres of surface and mineral estate lands within the Project Area. Utah SITLA lands account for approximately 8,410 acres of surface and mineral estate lands within the Project Area. The remaining 1,180 acres consist of various privately owned surface and mineral estate lands within the Project Area.

RDG operators currently hold leases on federal, state, and private lands within the Project Area. Unleased lands and lands leased by others are also present within the Project Area.

### ***S.2.2 CONFORMANCE WITH FEDERAL MANAGEMENT PLANS***

The Proposed Action and all alternatives described in this EIS would take place within the Book Cliffs Resource Area of the VFO. The Book Cliffs Resource Area is managed under a Resource Management Plan (RMP) approved in 1985. One management objective of the Book Cliffs RMP is to lease oil and gas, tar sands, oil shale, and gilsonite, while protecting or mitigating other resource values (BLM 1984). The Proposed Action and alternatives presented in this EIS are consistent with the management decisions of the Book Cliffs RMP EIS (BLM 1984).

The proposed development of natural gas resources is in conformance with the Book Cliffs RMP. The scale of the proposed development exceeds the scale of development analyzed by the RMP and the 1988 *Environmental Assessment for Oil and Gas Leasing in the Book Cliffs Resource Area*; accordingly this EIS was prepared to analyze a higher level of natural gas development prior to the approval of the permits (BLM 1988a).

### ***S.2.3 CONSISTENCY WITH LOCAL PLANS***

The Proposed Action is consistent with the Uintah County General Plan (2003). The plan generally indicates support for development proposals in its emphasis of multiple-use public land management practices and its emphasis of responsible use and optimum utilization of public land resources. As used in the plan, *multiple-use* is defined as including, but not limited to, the following historically and traditionally practiced resource uses: grazing, recreation, timber, mining, oil and gas development, agriculture, wildlife habitat, and water resources development. Therefore, as stated in the plan, the county supports the development of natural resources as they become available or as new technology allows.

The State of Utah does not have planning documents for the vicinity of the Proposed Action.

## **S.3 ISSUES AND CONCERNS**

The National Environmental Policy Act requires that the public and agencies be involved from an early stage in decision making on federal lands. An important part of this strategy is public scoping, which the Council on Environmental Quality regulations describe as the process for determining the “scope of the issues to be addressed and for identifying the significant issues related to the proposed action” (40 CFR 1501.7) This process of identifying the significant issues helps determine the direction and level of detail of the analysis. In late fall of 1999, BLM conducted public and internal scoping to solicit input and identification of environmental issues and concerns associated with the proposed RDG Project. On October 12, 1999, a briefing of the Proposed Action was made to the State of Utah Resource Development Coordinating Committee. A Notice of Intent (NOI) was published in the Federal Register on October 22, 1999. BLM then prepared a scoping information packet and provided copies of it to federal, state, and local agencies, the Ute Tribe, and members of the general public. Announcements of scoping opportunities were made in the news media. BLM conducted a public scoping and information open house in Vernal, Utah on November 18, 1999. The environmental issues identified via the scoping process for the proposed project are identified below.

***S.3.1 ENVIRONMENTAL IMPACT ANALYSIS***

- Identification of unavoidable adverse impacts.
- The Proposed Action's relationship to reasonably foreseeable development/cumulative impacts.
- Cumulative impacts analysis.

***S.3.2 LAND USE PLANS***

- Consistency with the BLM Book Cliffs RMP.
- Consistency with county land use planning.

***S.3.3 AIR QUALITY***

- Effects of the Proposed Action on regional air quality.
- Effects on atmospheric visibility.
- Effects on Dinosaur National Monument.

***S.3.4 CULTURAL/PALEONTOLOGICAL RESOURCES***

- Paleontological resource effects.

***S.3.5 LAND USE***

- Effects of project-related traffic on local roads used by the public.
- Need for a transportation plan that would eliminate/minimize duplication of existing roads.

***S.3.6 MINERALS***

- Compatibility with other valid, existing mineral rights and development.

***S.3.7 RECLAMATION AND ENVIRONMENTAL PROTECTION***

- Definition of impact mitigation measures.
- Identification of pollution prevention measures.
- Identification of reclamation practices.

***S.3.8 RECREATION AND VISUAL RESOURCES***

- Compatibility with Wild and Scenic River status.
- Conflicts with primitive recreation opportunities.
- Conflicts with visual resource management standards.
- Effects on the Goblin City viewshed.
- Effects on White River boating.

***S.3.9 RIPARIAN/WETLAND***

- Effects to riparian and wetland areas.

***S.3.10 SOCIOECONOMICS***

- Conservation of mineral resources.
- Economic benefits of the Proposed Action.

***S.3.11 SOILS***

- Stormwater runoff control.
- Erosion effects on surface waters (increased sedimentation and salt loads).
- Effects of disturbance on rehabilitation potential.

***S.3.12 SPECIAL STATUS SPECIES***

- Effects on special status fish.
- BLM responsibilities regarding Endangered Species Act, Section 7 consultation.

***S.3.13 VEGETATION***

- Noxious weed infestation and control.

***S.3.14 WATER RESOURCES***

- Effects to surface water quality.
- Effects to groundwater quality.
- Underground injection.
- Stormwater runoff control.
- Erosion effects on surface waters (increased sedimentation and salt loads).
- Hydraulic fracturing.

***S.3.15 WILDLIFE***

- Effects on migratory birds.
- Effects on sage grouse.
- Effects on raptors.
- Effects on crucial deer winter range.
- Consequences of habitat fragmentation.

***S.3.16 WILDERNESS CHARACTERISTICS***

- Effects to the White River wilderness inventory area (WIA).

- Effects to Utah Wilderness Coalition's (UWC's) proposed Lower Bitter Creek and White River wilderness units.

On April 14, 2003, the U.S. District Court for the Central District of Utah approved an agreement negotiated to settle a lawsuit originally filed in 1996 by the Utah SITLA and the Utah Association of Counties, challenging BLM's authority to conduct new wilderness inventories. In the settlement, the Department of the Interior (DOI) acknowledged that it lacks the authority to designate new wilderness study areas (WSAs) but does have the authority to conduct wilderness inventories and consider wilderness characteristics in its land use planning processes. Thus, the effects of the Proposed Action and each Alternative upon the wilderness characteristics of the White River WIA and the potential wilderness characteristics of the UWC's proposed White River and Lower Bitter Creek wilderness units will be disclosed in this analysis.

## **S.4 ALTERNATIVES**

Alternatives to the Proposed Action were developed to respond to the issues identified during scoping. The following criteria were used to establish a threshold for developing potential action alternatives:

- 1) The alternative must adequately meet the purpose and need for the Proposed Action.
- 2) The alternative must be consistent with the goals of land allocation and management direction in the Book Cliffs Resource Management Plan.
- 3) The alternative must be technically and economically feasible.
- 4) The alternative should be compatible with existing court decrees.
- 5) The alternative must meet the management and regulatory goals of the cooperating agencies.

Four alternatives were considered in detail: Alternative 1 – The Proposed Action, Alternative 2 – Additional Wildlife Considerations, Alternative 3 – Additional Environmental Considerations, and Alternative 4 – No Action. The alternatives are depicted graphically on Maps 2-1, 2-2, and 2-3 at the end of this document. Table S-1 compares the four alternatives in terms of their physical characteristics.

**Table S-1. Comparison of Alternatives**

	<b>Alternative 1 – Proposed Action</b>	<b>Alternative 2 – Additional Wildlife Considerations</b>	<b>Alternative 3 – Additional Environmental Considerations</b>	<b>Alternative 4 – No Action</b>
Proposed new wells	423	423	373	55
Wellsite surface disturbance (acres)	761	761	671	99
New road disturbance (acres)	461	461	407	60
<b>Total Disturbance</b>	<b>1,222</b>	<b>1,222</b>	<b>1,078</b>	<b>159</b>
Proposed new roads (miles)	127	127	112	17
Water use (acre-feet)	140	140	135	18
Proposed new compressor stations	1	1	1	0

***S.4.1 ALTERNATIVE 1 – PROPOSED ACTION***

The Proposed Action consists of the development of 423 natural gas wells, access roads, support facilities, a transmission pipeline, and a compressor station within the 79,914 acres project area. The development also involves the construction of pipelines for gathering the gas and produced water, and disposing of the produced water. The wells would be drilled on a spacing (subsurface production) pattern based on geology and reservoir qualities. Some areas could be developed on a 40-acre spacing pattern while others could be drilled on spacing patterns of 160 acres or larger. It is anticipated that 40-acre well spacing would only be applied in areas of high natural gas production. The existing road network would be used to the maximum extent practicable to access new wells in order to minimize surface disturbance.

The primary area considered for natural gas extraction is in the Wasatch Formation and Mesa Verde Formation, which are the primary producing horizons in this area, but wells to the Dakota and Weber Sandstones would probably be drilled also.

The existing road network would be used to the maximum extent practicable to access new wells in order to minimize surface disturbance. All construction and oil and gas drilling and production operations would be managed within the guidelines and regulations of the BLM, as well as state and county agencies (see Tables 1-1 and 1-2).

### ***S.4.2 ALTERNATIVE 2 – ADDITIONAL WILDLIFE CONSIDERATIONS***

Alternative 2 was developed in response to issues and concerns raised during the public and agency scoping process. This alternative would incorporate the same construction, operational, decommissioning, and reclamation components as the Proposed Action, with the addition of Environmental Considerations applied to proposed activities on federal lands within the project area. The Environmental Considerations would not disallow lawful access to develop a federal lease, but they could require the relocation of well pads, roads, and ancillary facilities within the lease. They could also restrict development during certain periods of the year, or require special construction, operational, and reclamation methods to reduce potential environmental impacts.

### ***S.4.3 ALTERNATIVE 3 – ADDITIONAL ENVIRONMENTAL CONSIDERATIONS***

Alternative 3 was developed to address recent updates in critical mule deer winter range boundaries for the area as developed by the Utah Division of Wildlife Resources and to address recent changes in wilderness inventory designation. This alternative would incorporate the same operational components as the Proposed Action (see Section 2.1.1) and the same environmental considerations as Alternative 2 – Additional Wildlife Considerations (see Section 2.2.1), except those in Sections 2.2.1.4.1, Deer; 2.2.1.4.2, Sage Grouse; and 2.2.1.4.3, Raptors. Under Alternative 3 – Additional Environmental Considerations, the Standard Operating Procedures and Best Management Practices that could be applied would result in the expansion of the mule deer winter range boundary and the application of United States Fish and Wildlife Service recommended guidelines for raptor protection.

Under this alternative, 50 fewer wells would be drilled over the life of the project when compared to the Proposed Action and Alternative 2 (i.e., only 373 wells). The wells eliminated from drilling would include 15 wells in the White River inventory area, 26 wells in the Utah Wilderness Coalition Lower Bitter Creek proposed wilderness unit that the BLM has determined likely to have wilderness characteristics, and 9 wells in the Utah Wilderness Coalition White River proposed wilderness unit that the BLM has determined likely to have wilderness characteristics (see Maps 2-2 and 2-8). In addition to raptor and sage grouse timing limitations and surface use restrictions, approximately 128 of the proposed wells on BLM-administered lands would be located on mule deer winter range that should be afforded protection through timing restrictions. A full description of the Environmental Considerations is contained in Section 2.2 of this EIS.

### ***S.4.4 ALTERNATIVE 4 – NO ACTION***

The No Action Alternative is required by NEPA for comparison to other alternatives analyzed in the EIS. For this project, the No Action Alternative would not authorize additional natural gas development on federal leases within the project area. Drilling would continue on State and private leases, and access and pipelines that cross federal lands to reach the proposed State and private wells would be granted as required by BLM policy.



## **S.5 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL**

Several additional project alternatives were considered as a result of issues raised during scoping. Each potential alternative was evaluated and some were eliminated from detailed analysis in the EIS for various reasons. The five alternatives considered, but not evaluated in detail include increasing the number of wells in the project area, a No Development alternative, directional drilling, suspension of leases for a period of time, and lease exchange.

A maximum development of 969 wells was analyzed as the Proposed Action in the EA initially prepared for this project. This development scenario was originally based on 80-acre spacing and later reduced to 160-acre spacing in critical deer winter range. In keeping with the decision to minimize environmental impacts for the analysis presented in this EIS, the BLM and RDG operators felt that realistic economic development could be attained at the level proposed in the Proposed Action (i.e., maximum development of 423 wells).

In contrast to the maximum amount of wells developed, a No Development alternative was considered but rejected for several reasons. Because there are private and state lands within the project area, development on these parcels could occur regardless of the decision to deny access to federal lands. The BLM cannot deny access to private holdings across federal lands, nor can the BLM deny the right to develop valid lease rights, as doing so would violate the lessees' contractual rights. This alternative was further rejected because denial of all development on federal lands could lead to the drainage of federal reserves from wells on adjacent state and private surface.

Directionally drilling the entire field was eliminated from detailed analysis because several technical and economic aspects limit the feasibility of directional drilling and, thus, the feasibility of this alternative. Directional drilling may be considered on a site-specific basis to lessen well density (surface disturbance), while allowing well spacing (subsurface production) to occur on a 40- or 80-acre pattern.

An alternative to hold certain leases in suspension for an extended period in the interest of conservation was considered. However, this alternative would merely delay the effects of development by the period of the suspension. Such a delay would not reduce the environmental impact of the Proposed Action. Thus, this alternative was not analyzed in detail.

The alternative of exchanging leases for other federal leases was also considered, but not analyzed in detail for two reasons. First, if an exchange were to occur, impacts in the Utah Wilderness Coalition proposed areas would be the same as the No Action alternative. Second, under existing exchange authority the exchanged assets must be located in the same state, rather than other states or federal offshore areas, as initially proposed. Also, the leases must be exchanged for leases of equal value, which would be difficult to do since the value of the leases is highly speculative at this time.

Please see Section 2.5 of this EIS for further details regarding the alternatives eliminated from detailed analysis.

## **S.6 AFFECTED ENVIRONMENT**

Chapter 3 of the Final EIS describes the current physical, biological, and social conditions within the area of influence of the Proposed Action. This information provides the baseline for assessing and comparing the potential impacts of the alternative. This section is subdivided into 17 resource areas/disciplines, which allows readers to easily locate resources or disciplines of greatest interest to them. It also allows readers to compare information presented in the Environmental Consequences of the Alternatives section with corresponding “current conditions” presented in this Affected Environment section.

The disciplines discussed in Chapter 3 for physical resources include geology, soils, water, and air quality. Biological resources addressed in this chapter include, vegetation, riparian/wetland areas, wildlife, special status species, and paleontological resources. Human resources are discussed for the disciplines of recreation, socioeconomics, noise, visual resources, cultural resources, land use, wilderness characteristics, and livestock management.

## **S.7 ENVIRONMENTAL CONSEQUENCES**

Chapter 4 of the Final EIS provides a comprehensive scientific and analytical comparison of the potential environmental consequences for Alternatives 1 – 4. In order to facilitate comparison of information provided in Chapters 3 and 4, the Environmental Consequences section is subdivided into the same 17 resource area/discipline subsections as those used in Chapter 3. Using the baseline established in the Affected Environment section, each subsection in Chapter 4 details the possible direct, indirect, and cumulative effects of each alternative. Each subsection also provides a series of potential mitigation measures that could be implemented to reduce possible impacts, and an assessment of the unavoidable impacts that arise from implementing each alternative.

The potential impacts of Alternatives 1 –4 are summarized in *Table 2.8* at the end of Chapter 2 of this Final EIS. In general, the effects would be similar for all four alternatives, except that the magnitude of effects would vary according to the number of wells, roads, and related facilities constructed.

## **S.8 COMMENTS ON THE DRAFT EIS**

The Notice of Availability for the RDG Uinta Basin Natural Gas Project Draft EIS was published in the Federal Register on August 8, 2003. The 45-day comment period was scheduled to end on September 22, 2003, although agency comment letters were accepted after that date. Soon after the release of the DEIS, a public meeting was held in Salt Lake City, UT on September 4, 2003 to explain the NEPA process, to receive comments regarding the DEIS, and to answer any questions related to the proposed action and alternatives.

Consistent with NEPA regulations, (40 CFR 1503.4(b)), all substantive comments on the Draft EIS received a response. Substantive comments includes those that challenge the information in the Draft EIS as being inaccurate or inadequate, or which offer specific information that may have a bearing on the decision. Comments that merely expressed an opinion for or against the

project were not identified as a comment requiring a response. In cases where the comment was not substantive, but appeared to indicate that information in the EIS was either misunderstood or unclear, a response was prepared to clarify the information. Comments received on the Draft EIS and the responses to those comments are found in Appendix A of this Final EIS. Resource specialists from the third-party consultant prepared draft responses to each substantive comment, which were then reviewed and approved by BLM personnel and subsequently prepared in the form found in this Final EIS.

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